

1 **What is claimed is:**

2

3 **[Claim 1]** A method for use in a well, comprising:
4 measuring a characteristic of a supply;
5 measuring the characteristic in or near a downhole tool and spaced
6 from the supply measurement;
7 comparing the measurements.

1

1 **[Claim 2]** The method of claim 1, further comprising verifying a
2 function of the downhole tool using the comparison.

1

1 **[Claim 3]** The method of claim 1, further comprising verifying
2 that the downhole tool has set using the comparison.

1

1 **[Claim 4]** The method of claim 1, further comprising verifying
2 that a fluid from the supply is reaching the downhole tool.

1

1 **[Claim 5]** The method of claim 1, further comprising measuring
2 a characteristic within the downhole tool using a sensor that is
3 external to the downhole tool.

1

1 **[Claim 6]** The method of claim 1, wherein the source is a
2 downhole source.

1 [Claim 7] The method of claim 1, wherein the source is
2 positioned at a surface of the well.

1
1 [Claim 8] The method of claim 1, wherein the step of measuring
2 the characteristic in or near the downhole tool is performed using a
3 sensor located within the downhole tool.

1
1 [Claim 9] The method of claim 1, wherein the step of measuring
2 the characteristic in or near the downhole tool is performed using a
3 sensor located externally to the downhole tool.

1
1 [Claim 10] The method of claim 1, wherein the step of measuring
2 the characteristic in or near the downhole tool comprises measuring
3 the characteristic in a control line that is in fluid communication
4 with the downhole tool.

1
1 [Claim 11] The method of claim 1, wherein the step of measuring
2 the characteristic of the supply is performed using a first sensor and
3 the step of measuring the characteristic in or near the downhole
4 tool is performed using a second sensor.

1
1 [Claim 12] The method of claim 11, further comprising measuring
2 the characteristic of the supply with the second sensor.

1
1 [Claim 13] The method of claim 1, wherein the measuring steps
2 are made using a differential sensor.

1 [Claim 14] The method of claim 1, wherein the characteristic is
2 pressure.

1 [Claim 15] The method of claim 1, further comprising deploying
2 mitigation measures based upon the comparison.

1 [Claim 16] The method of claim 1, further comprising:
2 inserting the downhole tool, comprising a hydraulically set packer
3 connected to a tubing, into the well;
4 providing fluid communication from an interior of the tubing to a
5 setting chamber of the packer via a packer setting line;
6 the measuring a characteristic of the supply step comprising
7 measuring a pressure of the interior of the tubing near an inlet to
8 the packer setting line.

1 [Claim 17] The method of claim 16, wherein the measuring the
2 characteristic in or near the downhole tool step comprises
3 measuring the pressure in the packer setting line.

1 [Claim 18] The method of claim 16, wherein the measuring the
2 characteristic in or near the downhole tool step comprises
3 measuring the pressure in the setting chamber of the packer.

1 [Claim 19] The method of claim 16, further comprising measuring
2 a tubing pressure via the packer setting line.

1 [Claim 20] The method of claim 1, wherein the downhole tool is
2 hydraulically actuated.

1

1 [Claim 21] The method of claim 1, wherein the downhole tool is a
2 packer.

1

1 [Claim 22] A system for use in a well, comprising:
2 a sensor system of one or more sensors adapted to measure a
3 characteristic of a supply and adapted to measure the characteristic
4 in or near a downhole tool at a position that is spaced from the
5 supply measurement.

1

1 [Claim 23] The system of claim 22, wherein the system of one or
2 more sensors comprises a differential sensor.

1

1 [Claim 24] The system of claim 22, further comprising:
2 a first sensor adapted to measure the characteristic of a supply;
3 a second sensor adapted to measure the characteristic in or near the
4 downhole tool, the second sensor measuring the characteristic at
5 the position that is spaced from the supply measurement.

1

1 [Claim 25] The system of claim 24, wherein the second sensor is
2 positioned external to the downhole tool.

1

1 [Claim 26] The system of claim 24, wherein the second sensor is
2 positioned within the downhole tool.

1

1 [Claim 27] The system of claim 24, further comprising:
2 a control line in fluid communication with the downhole tool and the
3 supply;
4 the second sensor is adapted to measure the characteristic in the
5 control line.

1
1 [Claim 28] The system of claim 24, further comprising:
2 the downhole tool having an internal chamber;
3 the second sensor is adapted to measure the characteristic in the
4 internal chamber.

1
1 [Claim 29] The system of claim 24, wherein the second sensor is
2 further adapted to measure the characteristic of the supply.

1
1 [Claim 30] The system of claim 22, wherein the source is a
2 downhole source.

1
1 [Claim 31] The system of claim 22, wherein the characteristic is
2 pressure.

1
1 [Claim 32] The system of claim 22, wherein the one or more
2 sensors are pressure gauges.

1
1 [Claim 33] The system of claim 22, further comprising:
2 a completion tubing;

3 the downhole tool comprises a packer connected to the completion
4 tubing, the packer having a setting chamber.

1

1 [Claim 34] The system of claim 33, wherein the sensor system
2 comprises a sensor adapted to measure the characteristic in the
3 setting chamber.

1

1 [Claim 35] The system of claim 33, further comprising:
2 a packer setting line in fluid communication the packer setting
3 chamber;
4 the sensor system comprises a sensor adapted to measure the
5 characteristic in the packer setting line.

1

1 [Claim 36] The system of claim 22, further comprising:
2 a lower completion in the well;
3 an upper completion above the lower completion;
4 an isolation system between and in fluid communication with the
5 lower completion and the upper completion, the isolation system is
6 adapted to selectively fluidically isolate the lower completion from
7 the upper completion;
8 the upper completion comprising:
9 a packer comprising the downhole tool, the packer having a setting
10 chamber therein;
11 a gauge mandrel below the packer that has the one or more sensors
12 therein;
13 an annular control valve below the gauge mandrel;
14 an in-line control valve below the annular control valve;

15 a packer setting line in fluid communication with the setting
16 chamber of the packer and an interior passageway of the upper
17 completion at a position below the in-line control valve;
18 a pressure sensor in the gauge mandrel in fluid communication with
19 the packer setting line adapted to measure a pressure in the control
20 line.

1

1 [Claim 37] The system of claim 36, further comprising a pressure
2 sensor in the gauge mandrel in fluid communication with the
3 interior passageway of the upper completion at a position below the
4 in-line control valve.

1

1 [Claim 38] A well completion system, comprising:
2 a completion tubing;
3 a packer connected to the completion tubing, the packer having a
4 setting chamber therein;
5 a packer setting line providing fluid communication between the
6 completion tubing and the packer setting chamber;
7 a pressure gauge adapted to measure a pressure in the packer
8 setting line.

1